OUTLINE SHEET 3-7-1
Engineering Operational Sequencing System

A. Introduction

Engineering equipment and systems are operated using standardized procedures. This lesson will help you become familiar with the operating system used on board Navy ships.

B. Enabling Objectives

3.20 **STATE** the purpose of EOSS.

3.21 **DESCRIBE** the parts of EOSS.

3.22 **EXPLAIN** the terminology used in EOSS

C. Topic Outline

1. Introduction
2. Overview
3. Parts of EOSS
4. Usage of EOSS
5. Summary and Review
6. Assignment

ASSIGNMENT SHEET 3-7-2
Engineering Operational Sequencing System

A. Introduction

This material is to be completed prior to the material being covered in class.

B. Enabling Objectives

Refer to enabling objectives in Outline Sheet 3-7-1.

C. Study Assignment

1. Read Fireman NAVEDTRA 12001, pages 1-12 to 1-18.
2. Read Information Sheet 3-7-3

D. Study Questions

1. What are the main parts of EOSS?
2. What is the difference between a System Procedure and a Component Procedure?
3. What is the difference between a Tank Table and a Tank Status Diagram?
4. What are the four basic actions of a Casualty Procedure?

INFORMATION SHEET 3-7-3
Engineering Operational Sequencing System

A. Introduction

This information describes parts and uses of EOSS.

B. Reference

Fireman NAVEDTRA 12001
Machinist's Mate 3&2 NAVEDTRA 12144
Electrician's Mare NAVEDTRA 12164
Engineering Operational Sequencing System User's Guide

C. Information

I. Engineering Operational Sequencing System (EOSS) provides safe, accurate, and standardized procedures tailored to each ship.
   A. The use of EOSS increases equipment service life and minimizes casualties by ensuring that each system or component is properly aligned, operated, and secured.
   B. EOSS also ensures that training for machinery operation is standardized.

II. The use of EOSS is mandatory.
   A. The repeated use of EOSS to operate the propulsion plant will increase the watchstander's level of proficiency.
   B. EOSS is tailored to individual pieces of equipment or systems and is issued to the watch station to which it applies.

III. EOSS consists of procedures, charts, and diagrams required for operation of a ship's propulsion plant.

IV. EOSS can be broken into three main parts:
   A. The User's Guide
      1. A booklet that explains the EOSS package and how to use it to the ship's best advantage.
      2. It provides recommendations for training the ship's personnel using the specified procedures.
   B. Engineering Operational Procedures (EOP) has guides for scheduling, controlling, and directing plant evolutions. EOP consists of several types of procedures:
      1. Component Procedures (CPs)
         a) Each CP contains logically sequenced actions and required reports to prepare, align, start, operate, shift, secure, or stop a specific component as ordered by the Space Supervisor.

2. System Procedures (SPs)
   a) Each SP contains logically sequenced procedures and required reports to align or secure a system and start or stop components within that system as necessary to complete an evolution as ordered by the Space Supervisor.
   b) Each SP will direct the user to a specific diagram to be used in support of the SP being accomplished.
3. Operational Procedures (OPs)
   a) Each OP contains logically sequenced actions and required communications between the Space Supervisors and the EOOW.
   b) OPs will specify the Component Procedure (CP) or System Procedure (SP) required by watchstanders to perform the action ordered by the Space Supervisor.
4. Master Plant Procedures (MP)
   a) MPs are structured so that they are the overall controlling documents used by the EOOW.
   b) MPs contain all required actions necessary to accomplish a specific plant status change.
   c) All critical and sequence keying communications are included.
5. Status Charts (SCs)
   a) Each SC contains information about the plant status, i.e., pumps, engines, or equipment on line.
   b) The use of SCs will ensure the exact plant status is readily available and the supervisor can determine the effect that a specific action will have on the plant.
6. System Diagrams (SDs)
   a) These diagrams will show all the components in a specific system
   b) The numbers assigned each valve is the numbers assigned by the Ship's Information Book (SIB) or the EOSS developer.
7. Tank Tables (TTs)
   a) TTs provide the proper valve alignment for each combination of tanks, components, fuel stations, and systems that are used when accomplishing an evolution.
8. Tank Status Diagram (TSDs)
   a) Each TSD contains the various tank locations.
   b) The capacity of each tank is shown and a space is provided to record the actual amount in gallons as well as in feet and inches.

9. Master Prelightoff Check list (MLOC)
   a) MLOC is the recommended minimum actions that must be completed prior to plant start up. (i.e., systems aligned, pumps running, or heaters started)
   b) The last page of the prelightoff check list provides a space for the Engineering Officer to list specific actions that are to be completed prior to start up/ light off.
   c) All MLOC discrepancies must be reported to the Engineering Officer.
   d) The Commanding Officer is the only one who may waive MLOC discrepancies.

C. Engineering Operational Casualty Control (EOCC)
   1. EOCC details the watch area actions and communications necessary to recognize casualties, control actions and prevent impending casualties.
   2. When properly followed, these procedures result in the placing of the propulsion plant in a safe and stable condition while the cause is being determined.
   3. EOCC will list for each casualty possible:
      a) Symptoms/Indications
      b) Causes
      c) Effects
   4. Casualty Procedures are divided into four basic actions.
      a) Controlling Actions - watchstation actions that are taken to prevent a possible casualty from becoming an actual casualty. This part of EOCC must be memorized.
      b) Immediate Actions - watchstation actions that are taken to stop the spread of a casualty and to minimize plant losses. This part of EOCC must be memorized.
      c) Supplementary Actions - watchstation actions that are taken to bring the plant to a safe and stable operating condition.
      d) Restoration Actions - consist of proper EOPs used either for restoring the plant for operation or for the continuance of securing the affected equipment.

V. EOSS will be strictly adhered to. Any change or deviation from EOSS must be authorized by the Commanding Officer, with either a signature at the bottom of each procedure or a cover letter explaining the authorized change.

VI. A shipboard EOSS package consists of one complete laminated set of

EOP and EOCC procedures to be used at each watchstation in the engineering spaces.

A. There is also one unlaminated set of EOP and EOCC procedures to be kept in the engineering log room.
   1. These can be photocopied , laminated, and used to replace damaged or lost documents in the spaces.

VII. In various EOSS procedures you may find:

A. Notes - Used to alert personnel of essential information, project final results or highlights a particular condition. Notes normally precede the action or series of actions to which they apply.

B. Cautions - Used to alert personnel to an action or series of actions which, if not strictly adhered to, may result in damage to equipment. Cautions will always precede notes and the action or series of actions to which they apply.

C. Warnings - Used to alert personnel to an action or series of actions which , if not strictly adhered to, may result in injury to personnel. Warnings will always precede notes, cautions and the action or series of actions to which they apply.